Start-up Strategies: to Uber or not to Uber?

Peter Olaf Looms

Thursday 19 November 2015
19:00-20:00 Room 201, 2/F KK Leung Building

A recent article in The Economist

Black cabs
High rents and Uber drive London's biggest taxi-driver training centre out of business

What I don't know isn't knowledge
Nov 4th 2015 | Britain

Uber - informal taxi services

AIRbnb - informal accommodation
To Über or not to Über - health and wellness

- Three cases:
  1. Getting over a heart attack
  2. Breathing difficulties (COPD)
  3. Persons with hearing impairments
- What are the implications for start-ups of
  - Working with the formal health care system OR
  - Working outside the formal system?

Case 1 - heart attacks
**Congestive Heart Failure (CHF)**

**What is it?**
A condition where the heart is unable to pump sufficient blood to meet the body’s needs.

**What are the main symptoms?**
Shortness of breath, excessive tiredness, leg swelling.

**What are the main causes?**
Coronary heart disease, high blood pressure, atrial fibrillation, heart valve disease, excessive alcohol use.

**How many people have it?**
The most common reason for hospitalisation of the 65+ group. Readmission to hospital ranges from 29-47%.

**How big is the global economic impact?**
USD 108 billion [2012]

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**Heart failure economic burden statistics**

The economic burden of heart failure goes beyond the cost of medicine

**What is the cost of heart failure on the global economy?**

~2/3 of all heart failure-associated costs in the EU are due to hospitalisation

IN 2012, THE OVERALL WORLDWIDE COST OF HEART FAILURE WAS NEARLY $108 BILLION

$65 BILLION IN DIRECT COSTS

$43 BILLION IN INDIRECT COSTS

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**Heart failure economic burden statistics**

The economic burden of heart failure goes beyond the cost of medicine

**ESTIMATED GLOBAL VALUES OF DIRECT, INDIRECT AND TOTAL COSTS OF HEART FAILURE PER COUNTRY IN YEAR 2012**

<table>
<thead>
<tr>
<th>Country name</th>
<th>Direct cost of HF ($ million)</th>
<th>Indirect cost of HF ($ million)</th>
<th>Overall HF costs ($ million)</th>
</tr>
</thead>
<tbody>
<tr>
<td>United States</td>
<td>20.900</td>
<td>9.800</td>
<td>30.700</td>
</tr>
<tr>
<td>Japan</td>
<td>7.844</td>
<td>3.576</td>
<td>11.420</td>
</tr>
<tr>
<td>Germany</td>
<td>5.340</td>
<td>2.040</td>
<td>7.380</td>
</tr>
<tr>
<td>France</td>
<td>4.314</td>
<td>1.568</td>
<td>5.882</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>3.223</td>
<td>1.461</td>
<td>4.684</td>
</tr>
<tr>
<td>Canada</td>
<td>2.891</td>
<td>1.093</td>
<td>3.984</td>
</tr>
<tr>
<td>Italy</td>
<td>2.716</td>
<td>1.208</td>
<td>3.924</td>
</tr>
<tr>
<td>Russian Federation</td>
<td>1.774</td>
<td>1.209</td>
<td>2.983</td>
</tr>
<tr>
<td>Australia</td>
<td>1.951</td>
<td>912</td>
<td>2.863</td>
</tr>
<tr>
<td>Spain</td>
<td>1.810</td>
<td>810</td>
<td>2.619</td>
</tr>
<tr>
<td>Korea, Rep.</td>
<td>1.156</td>
<td>678</td>
<td>1.834</td>
</tr>
<tr>
<td>Netherlands</td>
<td>1.311</td>
<td>463</td>
<td>1.775</td>
</tr>
<tr>
<td>Switzerland</td>
<td>975</td>
<td>379</td>
<td>1.354</td>
</tr>
</tbody>
</table>

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**What are the current solutions?**

- Hospitalisation
- Post-hospitalisation
  - Formal follow-up of patient rehabilitation by hospital/own doctor
  - Informal follow-up by carers in the home
  - Readmission of patients who have had a heart attack (non-compliance with medications & diet, social factors including isolation) 29-47% of cases

To Über or not to Über?

1. Investors
   Top - Down

2. Black Box
   Who wants to invest why in telemonitoring?

3. To what extend are informal carers of elderly with dementia a potential new target group?

4. Target Group
   Bottom - Up


Not to Über - working with formal system

HIT - Heart Insufficiency Telemedicine

HIT
Heart Insufficiency Telemedicine

REGION

HIT is a 1½-year demonstration project under the Capital Region of Denmark, the regional healthcare provider for Copenhagen and North Zealand. The HIT project aims to demonstrate the use of telemedicine in the treatment of patients with newly diagnosed heart insufficiency. Three Chronic Heart Failure (CHF) clinics in the region cooperate with private commercial partners to establish and evaluate the use of telemedicine. The clinics are:

- Herlev Hospital
- Bornholm Hospital
- Hvidovre Hospital

The project will evaluate at least 50 patients over a period of one year.

The HIT project originates from the work carried out in the Healthcare Innovation Lab (HIL) project.

Case 2: Breathing difficulties

- Health care has multiple stakeholders
- It takes time to map out the ‘ecosystem’ and negotiate a solution
- Understandable tendency to be conservative
- Sub-optimisation (focusing on sub-systems not not thinking about the big picture)
Chronic Obstructive Pulmonary Disease (COPD aka COLD, COAD)

<table>
<thead>
<tr>
<th>What is it?</th>
<th>A chronic lung disease - poor airflow</th>
</tr>
</thead>
<tbody>
<tr>
<td>What are the main symptoms?</td>
<td>Shortness of breath, coughing, sputum</td>
</tr>
<tr>
<td>What are the main causes?</td>
<td>Tobacco smoking, air pollution including cooking on open fires, genetical predisposition</td>
</tr>
<tr>
<td>How many people have it?</td>
<td>329 million suffer from it 2.9 million die from it each year [2013]</td>
</tr>
<tr>
<td>How big is the global economic impact?</td>
<td>USD 2.1 trillion [2010]</td>
</tr>
</tbody>
</table>

What are the main problems?
- Not knowing how to live with a chronic disease like COPD
- Coping with an breathing attack by using an inhaler (can’t call for help)
- Managing family and friends during an attack (can’t tell them what’s going on)

What do patients currently do?
- Risk avoidance behaviours (not going outdoors when there is air pollution)
- Try to find their inhaler
- Try to send a text message to their family and friends (cannot speak during an attack)

What are the options? (industrialised countries)
- Pulse Ox
  - Heart rate
  - Blood oxygen level
  - Steps
- Propeller health
  - Intelligent Bluetooth button to keep track of medication use
- Bluetooth beeper
  - Integrated in inhaler to locate it when needed
**How does it work? (industrialised countries)**

**Solution**

- Monitors the patient's health status via oximeter and heart rate sensors
- Warning if status is getting critical
- Shows exercises and how to take medicine
- Calendar to warn about adverse conditions

**What’s in it for the patient?**

- Reduced physical discomfort
- Reduced stress and emotional discomfort

**What’s in it for family members and friends?**

- Reduced stress and emotional discomfort
What’s in it for health care?

Solution
- Health statistics
- Helps doctors understand the patient’s condition and improve treatment
- Shares data via Apple HealthKit

What’s in it for the suppliers of inhalers?
- Being able to provide a better service more safely
- Can this be done informally or does this require certification with the Food and Drugs Administration (FDI)?
- To Über or not to Über?

Cost structure

Costs & Expenses
- Development team
- A beeper would likely cost around 20-40$ - This could be paid through insurance
- Alternatively, inhaler manufacturers could be partners

Revenue streams

Revenue
- Monthly user payment
- Medical companies’ access to ratings and statistics
- Sponsored by medicinal companies or foundations
Case 3: people with hearing impairments

Persons who were born deaf

Persons who become deaf

Sir George Martin, producer of The Beatles

Hearing statistics (WHO)

100% ≈ 7,000 million people
**Hearing statistics (WHO)**

- Don’t know how to use their hearing aids to the full
- Usability
  - Digital literacy
  - Accessibility
  - Affordability
    - Availability
- Cultural barriers
- Can’t afford a hearing aid
- Not available in the country

- <36 million
- 360 million

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**To Über or not to Über?**

- Work with the formal ecosystem to help people with hearing disabilities?
- Work with the 90% of those who need something by doing something different?
- Or both?

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**Most of the target audience have a mobile phone**

- Don’t know how to use their hearing aids to the full
- Don’t know how to use their hearing aid
- Cultural barriers
- Can’t afford a hearing aid
- Not available in the country

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**The majority cannot afford hearing aids**

- Offer hearing tests on the phone (no competition in areas with few doctors and audiologists)
- Offer apps on the phone that can do some of the jobs a hearing aid can do
- Look at alternative revenue streams
- Parallels to ‘unused resources’ at Über - private cars only used 4-5% of time
3 cases - different strategic options

- Businesses - the animal metaphor

<table>
<thead>
<tr>
<th>Company category</th>
<th>Employees</th>
<th>Turnover</th>
</tr>
</thead>
<tbody>
<tr>
<td>Top 500 (big)</td>
<td>&gt;250</td>
<td></td>
</tr>
<tr>
<td>Medium-sized</td>
<td>&lt;250</td>
<td>≤ HKD 500m</td>
</tr>
<tr>
<td>Small</td>
<td>&lt;50</td>
<td>≤ HKD 100m</td>
</tr>
<tr>
<td>Micro</td>
<td>&lt;10</td>
<td>≤ HKD 20m</td>
</tr>
</tbody>
</table>

Of mice, elephants and gazelles

median age 56 years

Eastman Kodak 1888 (2012)

Microsoft Inc. 1975

Apple Inc. 1976

Google Inc. 1998

Facebook Inc 2004

average age ≈ 20 years

Of mice, elephants and gazelles

Of mice, elephants and gazelles

Average Lifetime of S&P 500 Companies

Source: Richard Foster: Creative Destruction (2001); Deloitte Center for the Edge
“If the rate of change on the outside exceeds the rate of change on the inside, the end is near.” — Jack Welch

“Success breeds complacency. Complacency breeds failure. Only the paranoid survive.” — Andy Grove

Start-ups: how to protect your intellectual property?

Source: Reinventing the company. The Economist print edition October 24, 2015

NOW that Uber is muscling in on their trade, London’s cabbies have become even surlier than usual. Meanwhile, the world’s hoteliers are grappling with Airbnb, and hardware-makers with cloud computing. Across industries, disrupters are reinventing how the business works. Less obvious, and just as important, they are also reinventing what it is to be a company.

Conclusions

- To Über or not to Über - the balance between innovation and vested interests
- In health and wellness, there are start-up options in the informal sector
- Nation-states will have to review their competitiveness
- Rethink start-up legal frameworks
Thank you!

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**A shift from PLCs to contract law**

- Start-ups are badly served by the existing legal framework
- Entrepreneurs often have no clear IP strategy to get them past the early stages into Series A and Series B funding
- A serious rethink is needed about how to help mice to become elephants and ultimately elephants!